

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau(43) International Publication Date
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number
WO 2004/023526 A2(51) International Patent Classification⁷:

H01L

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(21) International Application Number:

PCT/US2003/027795

(22) International Filing Date:

5 September 2003 (05.09.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/408,708

6 September 2002 (06.09.2002) US

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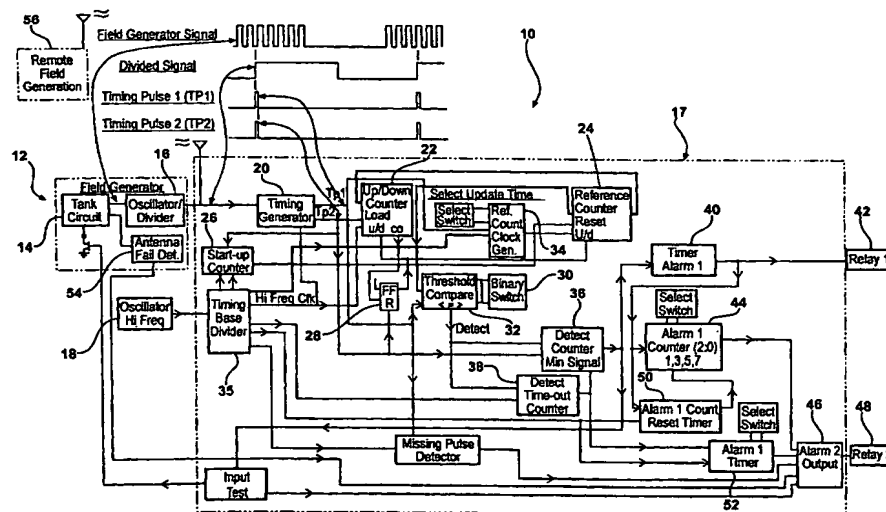
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34683 (US).(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR PROCESSING CAPACITOR SENSOR SIGNALS USING DIGITAL
FREQUENCY SHIFT MEASUREMENT TECHNIQUES WITH FLOATING REFERENCE

(57) Abstract: The present invention provides a capacitive sensing technique that is advantageously useful for security applications wherein digital technology is used to measure frequency shifts caused by a conductive or grounded object moving within a capacitive sensing field. The system includes a floating reference to compensate for drifting or offsets caused by electrical noise or other environmental conditions. The system also includes a CPLD integrated circuit or microprocessor and operative to monitor changes in a sensing field signal and digitally compare a reference signal to the sensing field signal such that when a difference between the two signals exceeds a predetermined threshold, an object detection signal is generated by the monitor circuit which causes the activation of an alarm signal.